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J/ψ photo-production at the Relativistic Heavy Ion Collider with STAR. L. CHANAKA DE SILVA, Creighton University, STAR COLLABORATION — Ultra-peripheral collision events are effectively photo-production on nuclear targets. Relativistic heavy ions carry strong transverse electromagnetic fields that can be treated as sources of quasi-real virtual photons. The ions interact through photon-pomeron and photon-photon collisions at impact parameters more than twice the nuclear radius, so hadronic interactions are suppressed. These events also provide an ideal proving ground for new programs in e+A physics. We present recent results from the J/ψ photo-production measurement using 200GeV Au+Au collisions in the STAR experiment at RHIC. The p_T distribution of the J/ψ mesons peaks at very low p_T, consistent with expectations for coherent photo-production. Because of its heavy mass, the J/ψ meson has sufficient virtuality to probe the Au wave function deeply enough to discern the possible presence of gluon shadowing. We will present the measurement of J/ψ cross section in 200GeV Au+Au collisions, as well as a distribution of J/ψ rapidity within $|y| < 1$. Possible theory comparisons are also discussed.

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